

SESSION 8 SUMMARY

Discussion focused on each series of talks, allowing questions and discussions that were cut short during the sessions.

U of Ill. - a new modified design for the Li flow system was presented and discussed. It was unclear if this design would provide more difficulty in interpretation due to effects of eddy currents. (more discussion is needed.) The effects of surface and bulk impurities were discussed. A need exists to quantify the impurity content.

The ELM simulator theta pinch scale up was discussed and agreed that it would reach conditions relevant to ITER.

Temperature and mass dependent sputtering yields were discussed. Several factors could still be responsible for the observed effects. Matt will sort it all out to graduate in the near future.

UW - Dionisis was discussed. Tungsten exposure is possible. The effects of surface impurities were mentioned and it was discussed that perhaps Dionisis should not focus its efforts on surface effects since surface diagnostics don't yet exist on Dionisis. A similar experimental system exists and is used at SNLL for Ga measurements.

UCSD - Including the effects of O on mixed materials is important but difficult to perform. The issue of dust creation/spallation of mixed Be surfaces was discussed. Be/W surfaces have been observed to exfoliate after exposure to air for some time. Be/C surfaces appear to exhibit much better adherence. The concept of mixed materials both from the first wall in the divertor and from the divertor onto the first wall should be expected in ITER because both have been observed in existing devices.

Heat Transfer and Fluid Flow

The importance of including transient heat loads and non-uniform heating was discussed and stressed.

The concept of additional electron heat loss channels in a low recycling wall was presented, but no conclusion was reached. (more discussions between the parties was proposed).

DiMES – The issue of the angle of the sample exposure head was discussed. No resolution was arrived at but the angle is to be further discussed in internal memos to the DiMES team.

The idea of extending 1-d flow measurements to 2-d was discussed. The issue of tracking impurity transport by using either Cu or Li was mentioned.

A final comment was mentioned about trying to validate a divertor concept in ITER for DEMO was expressed, much like the TBM concept. This issue should be revisited during the next meetings or conference calls.